

1 1. A method of coating solder ball and wire bond
2 bond pads comprising:

3 masking said solder ball bond pads; and
4 coating gold on said wire bond bond pads with
5 said solder ball bond pads masked.

1 2. The method of claim 1 including providing a
2 different gold coating thickness on said solder ball bond
3 pads and said wire bond bond pads.

1 3. The method of claim 2 including providing a
2 thicker gold coating on said wire bond bond pads than on
3 said solder ball bond pads.

1 4. The method of claim 3 including providing a gold
2 coating, on said wire bond bond pads, having a thickness of
3 about .5 microns and providing a solder ball bond pad gold
4 coating of approximately .1 to .3 microns in thickness.

1 5. The method of claim 1 including nickel coating
2 said solder ball and said wire bond bond pads at the same
3 time before coating said wire bond bond pads with gold.

1 6. The method of claim 1 including coating said wire
2 bond bond pads with a first gold coating and coating both

3 of said solder ball bond pads and said wire bond bond pads
4 with a second gold coating.

1 7. The method of claim 6 wherein said second gold
2 coating is thinner than said first gold coating.

1 8. The method of claim 1 including using an
2 electroless plating technique to coat gold on said wire
3 bond bond pads.

1 9. The method of claim 1 including forming a
2 laminate structure having solder ball bond pads and wire
3 bond bond pads on the same surface.

1 10. The method of claim 1 wherein said solder ball
2 bond pads are gold coated in a single step.

1 11. The method of claim 10 including coating said
2 solder ball bond pads and said wire bond bond pads while
3 the other of said solder ball and wire bond bond pads is
4 masked.

1 12. A method of coating two different types of bond
2 pads on the same surface comprising:
3 masking off a first type of bond pad; and

4 coating a metal on the second type of bond pad
5 with said first type of bond pad being masked.

1 13. The method of claim 12 including masking solder
2 ball bond pads.

1 14. The method of claim 13 including coating metal on
2 wire bond bond pads.

1 15. The method of claim 14 including coating gold on
2 said wire bond bond pads.

1 16. The method of claim 15 including unmasking said
2 solder ball bond pads and coating a metal on both said wire
3 bond bond pads and said solder ball bond pads.

1 17. The method of claim 12 including providing
2 different coating thicknesses on said first and second
3 types of bond pads.

1 18. The method of claim 12 including coating gold on
2 said second type of bond pad.

1 19. The method of claim 18 wherein said first type of
2 bond pad is a solder ball bond pad and said second type of
3 bond pad is a wire bond bond pad, coating gold on said wire

4 bond bond pad to a thickness of about .5 microns and
5 coating gold on said solder ball bond pads to a thickness
6 of about .1 to about .3 microns.

1 20. The method of claim 19 including nickel coating
2 said first and second types of bond pads at the same time
3 before coating said wire bond bond pads with said metal.

1 21. The method of claim 12 including coating both
2 said first and second types of bond pads with said metal
3 after coating said metal on said second type of bond pad.

1 22. The method of claim 12 including masking off said
2 second type of bond pad and coating metal on said first
3 type of bond pad.

1 23. A method of forming solder ball and wire bond
2 bond pads comprising:
3 forming a solder ball bond pad;
4 coating gold over said solder ball bond pad;
5 forming a wire bond bond pad; and
6 coating gold over said wire bond bond pad to a
7 thickness greater than said gold coating over said solder
8 ball bond pad.

1 24. The method of claim 23 including masking said
2 solder ball bond pad and coating gold on said wire bond
3 bond pad with said solder ball bond pad masked.

1 25. The method of claim 24 including providing a gold
2 coating on said wire bond bond pad having a thickness of
3 about .5 microns.

1 26. The method of claim 23 including providing a gold
2 coating on said solder ball bond pad of approximately .1 to
3 .3 microns in thickness.

1 27. The method of claim 23 including coating said
2 wire bond bond pads with a first gold coating and coating
3 both of said solder ball and said wire bond bond pads with
4 a second gold coating.

1 28. The method of claim 23 including coating said
2 solder ball bond pad to a thickness of approximately .25
3 microns.

1 29. A method of forming solder ball and wire bond
2 bond pads comprising:
3 masking said solder ball bond pad;
4 coating gold over said wire bond bond pad;

5 masking said wire bond bond pad; and
6 coating gold over said solder ball bond pad.

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8 30. The method of claim 29 including coating said
9 wire bond bond pad with gold to a thickness greater than
10 the gold coating over said solder ball bond pad.

1 31. A packaged integrated circuit device comprising:
2 a plurality of gold coated solder ball bond pads;
3 a plurality of gold coated wire bond bond pads;
4 and
5 the gold coating on said solder ball bond pads
6 being thinner than the gold coating on said wire bond bond
7 pads.

1 32. The device of claim 31 wherein the thickness of
2 the gold on said solder ball bond pads is sufficiently low
3 to reduce the likelihood of solder ball joint
4 embrittlement.

1 33. The device of claim 31 wherein said solder ball
2 bond pads have a gold coating having a thickness of between
3 about .1 and .3 microns.

1 34. The device of claim 33 wherein said solder ball
2 bond pad gold coating has a thickness of about .25 microns.

1 35. The device of claim 33 wherein said wire bond
2 bond pads have a gold coating thickness of approximately .5
3 microns.

1 36. The device of claim 31 wherein said solder ball
2 bond pads and said wire bond bond pads are all contained on
3 the same planar surface.